

CYTEC

CYTEC INDUSTRIES INC.

Warners Plant
P.O. Box 31
Foot of Tremley Pt. Rd.
Linden, NJ 07036
Tel: (908) 862-6000

Transmitted Via Federal Express

August 29, 1997

Mr. David Rislia
Land Use Regulation Program
New Jersey Department of Environmental Protection
501 East State Street
C.N. Box 401
Trenton, New Jersey 08625-0401

Re: Cytec Carteret Impoundments Wetlands Status

Dear Mr. Rislia:

This letter is intended as a follow-up to our conversation regarding the wetlands status of the Carteret, New Jersey Facility. As you are aware, we are presently considering a redevelopment scenario for the sludge impounds portion of the site which involves the placement of stabilized dredge material. Since our proposed project will involve a commitment of significant resources, we do not wish to proceed until a preliminary determination has been made by the NJDEP regarding the wetlands status at the facility. Our objective with this letter is to provide the NJDEP with sufficient information to make a preliminary determination regarding wetlands surrounding the sludge impoundments. If based on review of the information provided, it appears that the wetlands delineation is generally acceptable to the NJDEP, we will proceed with the more formal applications and permitting for the facility.

For your review, Attachment 1 presents a summary of the proposed redevelopment program for these impounds. Generally, the proposed program involves the placement of 20 to 30 feet of stabilized dredge material over the existing impounds to produce a site which will be suitable for redevelopment. This program will benefit the Borough of Carteret and the New Jersey/New York metropolitan region in several ways including facilitating redevelopment of the otherwise abandoned site and the Borough of Carteret's plans for constructing the Carteret Mall.

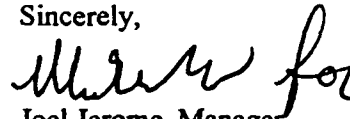
Based on our previous conversation, it is our understanding that actual impound areas containing sludge from former manufacturing operation would not be considered to be wetlands, however, areas outside of the impound berms may be considered wetlands based on the NJDEP delineation criteria. Attachment 2 presents a preliminary wetlands delineation map including the approximate mean high water elevation, and drawings presenting cross-sections of the sludge material within the impounds.

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We appreciate your continued cooperation regarding the site. If you should have any questions or require additional information, please do not hesitate to contact me at (908) 862-6000 Ext.486.

Sincerely,

A handwritten signature in black ink, appearing to read "Joel Jerome" followed by a stylized flourish.

Joel Jerome, Manager
Site Remediation

cc: A. N. Johnson, Blasland, Bouck & Lee, Inc
H. Shah, NJDEP
J. Pecchioli, NJDEP

Attachment 1

Project Description

Cytec Industries Inc.
Proposal for the Redevelopment of the Carteret Impoundments

This document presents an overview of Cytec Industries Inc. (Cytec) proposal to redevelop its Carteret Impoundment property for future industrial use. The 120 acre site, located at the confluence of the Rahway River and the Arthur Kill in the Borough of Carteret, Middlesex County (see Figure 1), currently contains approximately 85 acres of impoundments containing process residuals generated from production operations at Cytec's (and its predecessor - the American Cyanamid Company) Warners Plant in Linden.

The Carteret property currently has very limited redevelopment potential due to the process residual's lack of structural integrity and the site's location in the flood plain. Cytec is proposing to place treated dredge materials on the site to provide the structural integrity to make it suitable for future industrial development.

This redevelopment program provides both short and long term benefits to the Borough of Carteret, the New Jersey/New York metropolitan region, and Cytec in the following ways:

1. This future industrial development will allow for the continued expansion of the ongoing program in Carteret to redevelop distressed industrial properties - therefore adding jobs and tax rateables which will benefit the Borough of Carteret and the surrounding communities.
2. This project will directly support the Carteret Mall project being developed in accordance with the recently enacted Environmental Opportunities Act and consistent with the brownfield development program as it will provide the land necessary to relocate a business that is presently operating on the property of the future mall.
3. It will provide immediate and economic upland disposal capacity for treated dredge materials from the New York/New Jersey Harbor, thereby assisting the region by allowing the New York/New Jersey Harbor to remain a viable port.
4. It will enhance the NJDEP approved remedial action plan for the Carteret Impoundments by further isolating the process residuals from the environment with an impermeable barrier.
5. It will allow Cytec to convert a currently environmentally impacted property with very limited future beneficial reuse potential to property that may be used for future industrial development.

This document provides a summary of the historical site use, the site's regulatory history, and Cytec's proposed redevelopment plan.

1. Historical Site Use

- a. From the 1930s to 1974, the American Cyanamid Company operated six bermed impoundments on a 120 acre site in Carteret for the management of residuals from the production of alum and yellow prussiate of soda (YPS) at their Linden manufacturing plant.
- b. Alum is commonly used as a flocculating agent in the treatment of drinking water. Alum production at the Warners plant involved the digestion of aluminum ore (bauxite) with sulfuric acid, resulting in a silica byproduct referred to as alum mud. Water was added to the alum mud to form a slurry, which was neutralized by addition of sodium hydroxide, prior to placement at the Carteret Impoundments.

- c. YPS has a variety of practical uses, including anti-caking of table and road salts, film development, electroplating, dyeing of textiles, and trace metal removal. YPS production at the Warners plant involved the reaction of calcium cyanide with ferrous sulfate to yield sodium ferrocyanide. During the reaction, calcium carbonate and calcium sulfate precipitate. Calcium ferrocyanide is decomposed by addition of soda ash, then filtered. The filtrate is concentrated and the sodium ferrocyanide crystallizes.

The alkaline filtrate, or YPS mud consisting primarily of calcium carbonate and calcium sulfate was slurried with water and combined with the alum mud, providing additional neutralization of the alum mud. A neutral residue resulting from the combination of the two process muds was then pumped to the Carteret Impoundments for settling and natural dewatering.

- d. There is estimated to be 1.5 million tons of alum and YPS muds deposited in the Carteret Impoundments. The Impoundments, which cover approximately 85 acres of the 120 acre site, were constructed by building berms within the marshlands using imported soils. Figure 2 shows the footprint of the berms as of 1955 when the last of the impoundments was constructed. The remaining 35 acres has always been undisturbed marshland.

2. Regulatory History

The Carteret Impoundment site has been the subject of three State mandated environmental programs. The investigating, engineering and construction efforts completed by Cytec in meeting the requirements of these programs resulted in the New Jersey Department of Environmental Protection (NJDEP) approval of a monitor/maintenance only remedial action program in February 1995. Each of these regulatory programs are summarized below.

- a. The process residuals placed in the Carteret Impoundments will not support vegetative growth. Figure 3 is a 1980 aerial photograph of the impoundments which illustrates the lack of vegetation on the impoundments six years after the cessation of the placement of materials. In times of dry weather, the surface of the residuals would dry out and create a dusting problem. In the summer of 1977, this problem became so severe that the dusting from these impoundments caused the New Jersey Turnpike to be shut down for a few hours. As a result of this, American Cyanamid entered into an Administrative Consent Order (ACO) with the NJDEP to address this dusting problem. In 1988, a multi-year program consisting of filling, grading, and the establishment of vegetative and water covers on the impoundments was completed to address the dusting problem and meet the requirements of the ACO. Figure 4 is a 1990 aerial photograph illustrating the present water and vegetative covers.
- b. In accordance with the NJDEP policy at the time, in 1986 a New Jersey Pollutant Discharge Elimination System/Discharge to Groundwater (NJPDES/DGW) permit was issued for the Carteret Impoundments. This permit required that ground-water quality be monitored at the Carteret Impoundments. In accordance with the requirements of the permit, ground-water quality was monitored from 1987 to 1992. In 1990, the NJPDES/DGW permit was withdrawn by the NJDEP.
- c. In August 1993, Cyanamid and the NJDEP executed an amendment to the ACO for the Linden Plant requiring the evaluation of potential contamination at the Carteret Impoundments. As a result of the evaluations completed in accordance with the

requirements of the ACO, Cytec proposed and the NJDEP approved in February 1995, the following remedial program for the Carteret Impoundments:

- I. the completion of a five-year monitoring program for surface water and ground water; and,
- II. the establishment of a Declaration of Environmental Restrictions (DER) requiring continued management of the residual already impounded and continued maintenance/monitoring activities of the impoundment berms and soil/water covers.

A copy of the NJDEP letter approving this remedial program is presented as Attachment 1. Cytec is presently implementing this remedial program to maintain the water and vegetative covers as well as the berms.

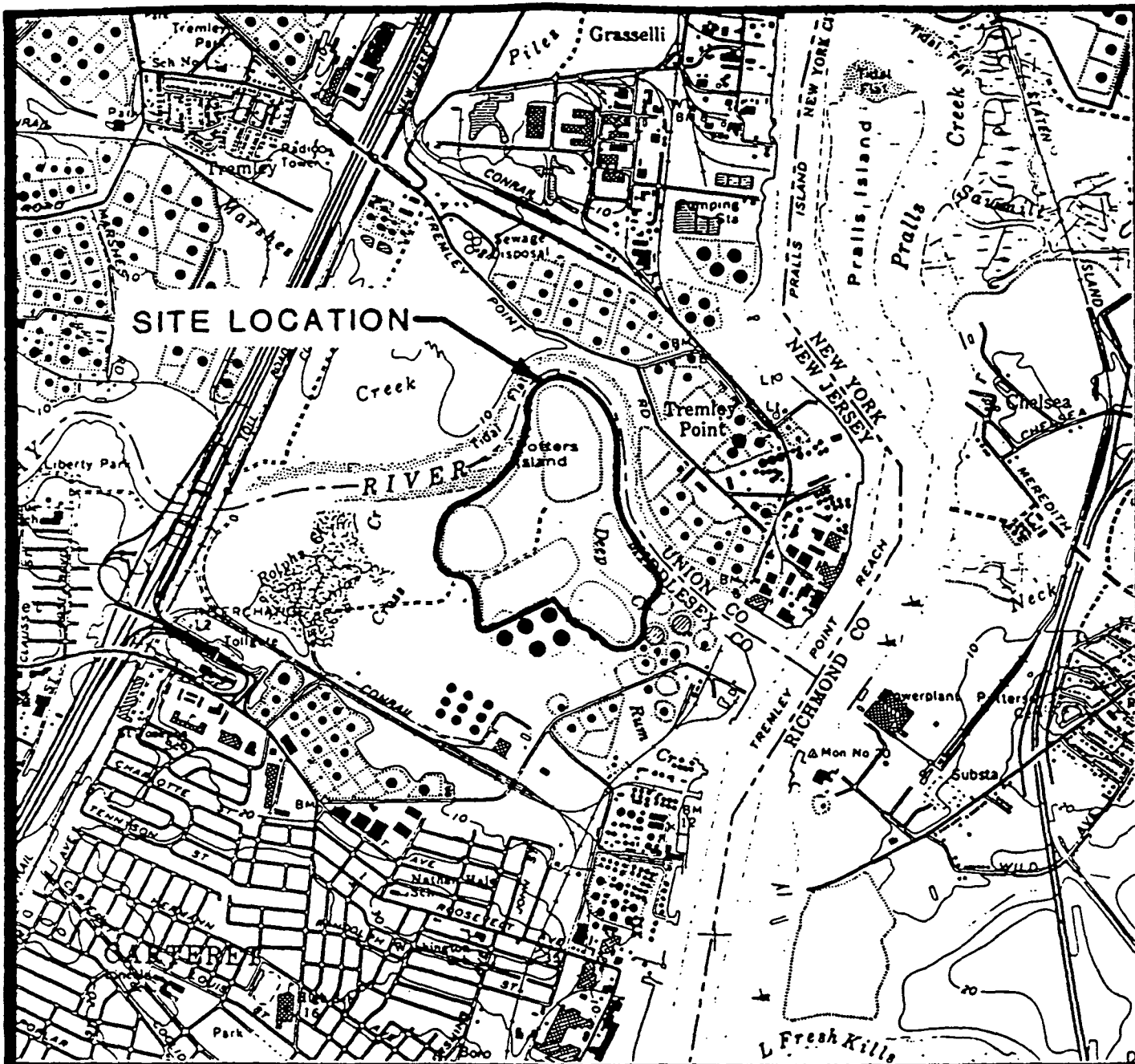
3. Proposed Redevelopment Plan

Cytec is proposing to use treated dredged material from New York/New Jersey Harbor, private docks, and/or sediments under the responsibility of the US Army Corps of Engineers to further fill the present footprint of the impoundments (85 acres) to make that area suitable for future industrial development. The proposed development of the property has been defined to meet the specific needs of the on-going Carteret mall project that is being constructed on the adjacent Carteret Landfill. Approximately 25 acres of the 85 acres to be filled will be filled with approximately 25 feet of treated dredge materials with a final grade suitable for development and use by the business being relocated from the future mall property. The remaining 60 acres will be filled to provide a visual barrier between the relocated business and the mall as well as to provide a potential location for future industrial uses. The existing 35 acres of previously undisturbed marshlands will remain undisturbed as part of this redevelopment project. Figure 5 present a conceptual grading plan for the above described redevelopment of this property.

The treated dredge material will enhance the NJDEP approved remedial action plan and provide the structural integrity to allow for future industrial development. The low permeability of the treated dredge material will further isolate these impoundments from the environment by capping them with at least 25 feet of this material. The treated dredge material produces a structural fill that provides the structural integrity to allow for the future industrial development of this property.

Attachment 2

Wetlands Map and Impoundment Cross Sections

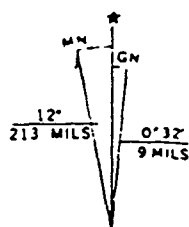


SOURCE:

— ARTHUR KILL, N.Y., N.J.
7.5 MINUTE QUADRANGLE
CONTOUR INTERVAL 10 FEET



SCALE: 1" = 2,000'



UTM GRID AND 1981 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

DECEMBER 1, 1983 TO-100A
1030457R 1030458M 3.0W

BLASLAND, BOUCK & LEE
ENGINEERS & SCIENTISTS

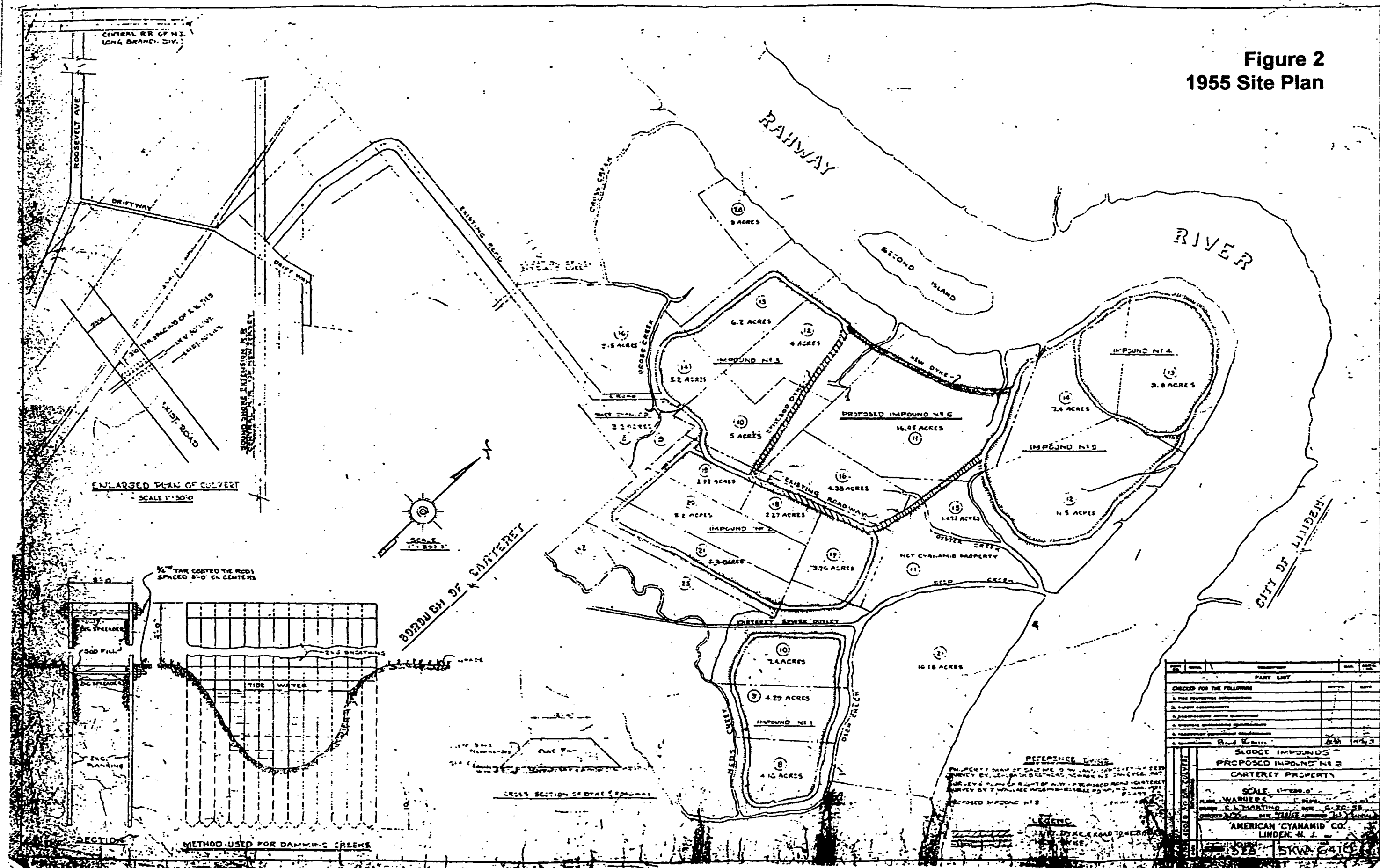
AMERICAN CYANAMID COMPANY
CARTERET, NEW JERSEY
WORK PLAN

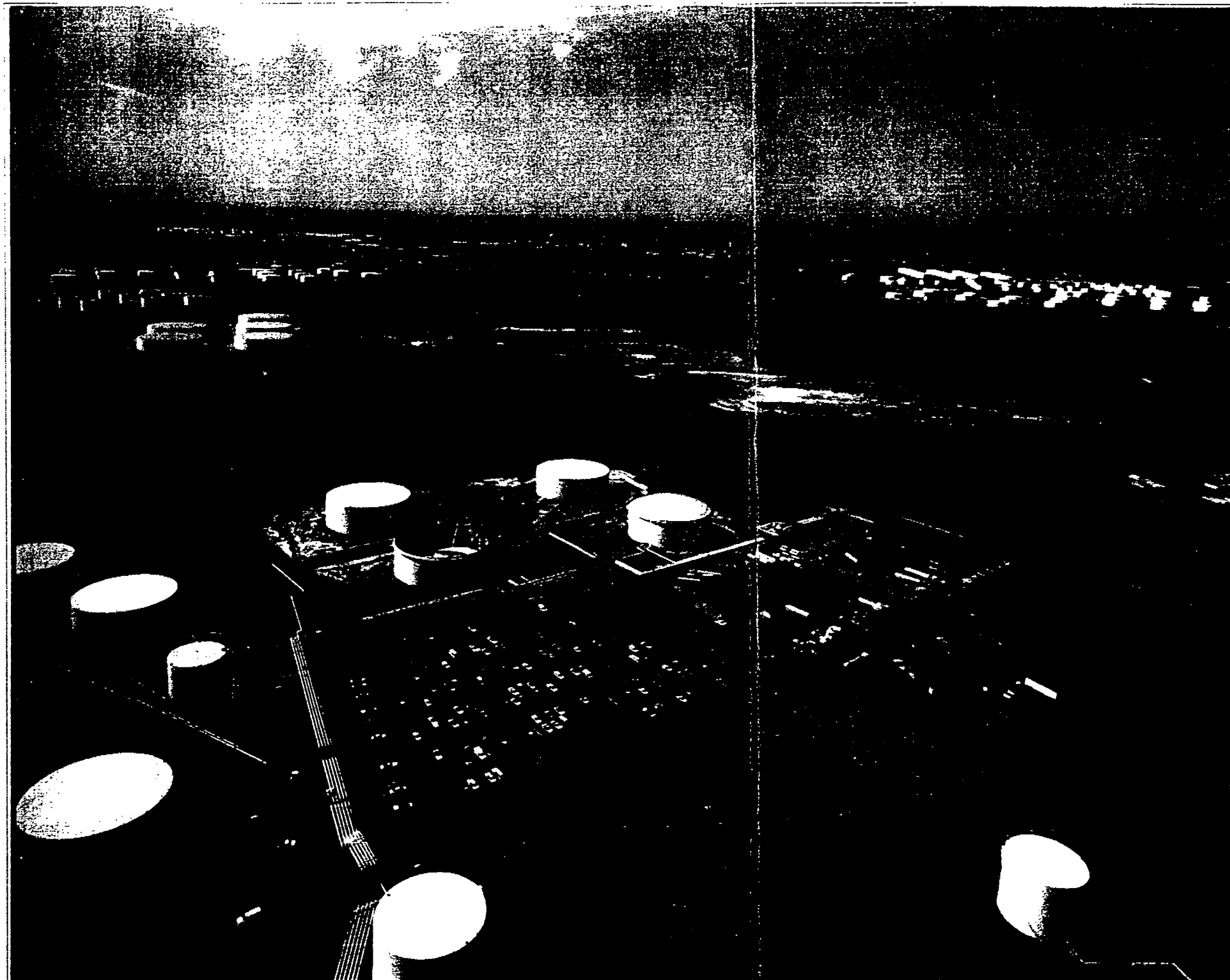
**SITE LOCATION
MAP**

FIGURE

1

Figure 2 1955 Site Plan



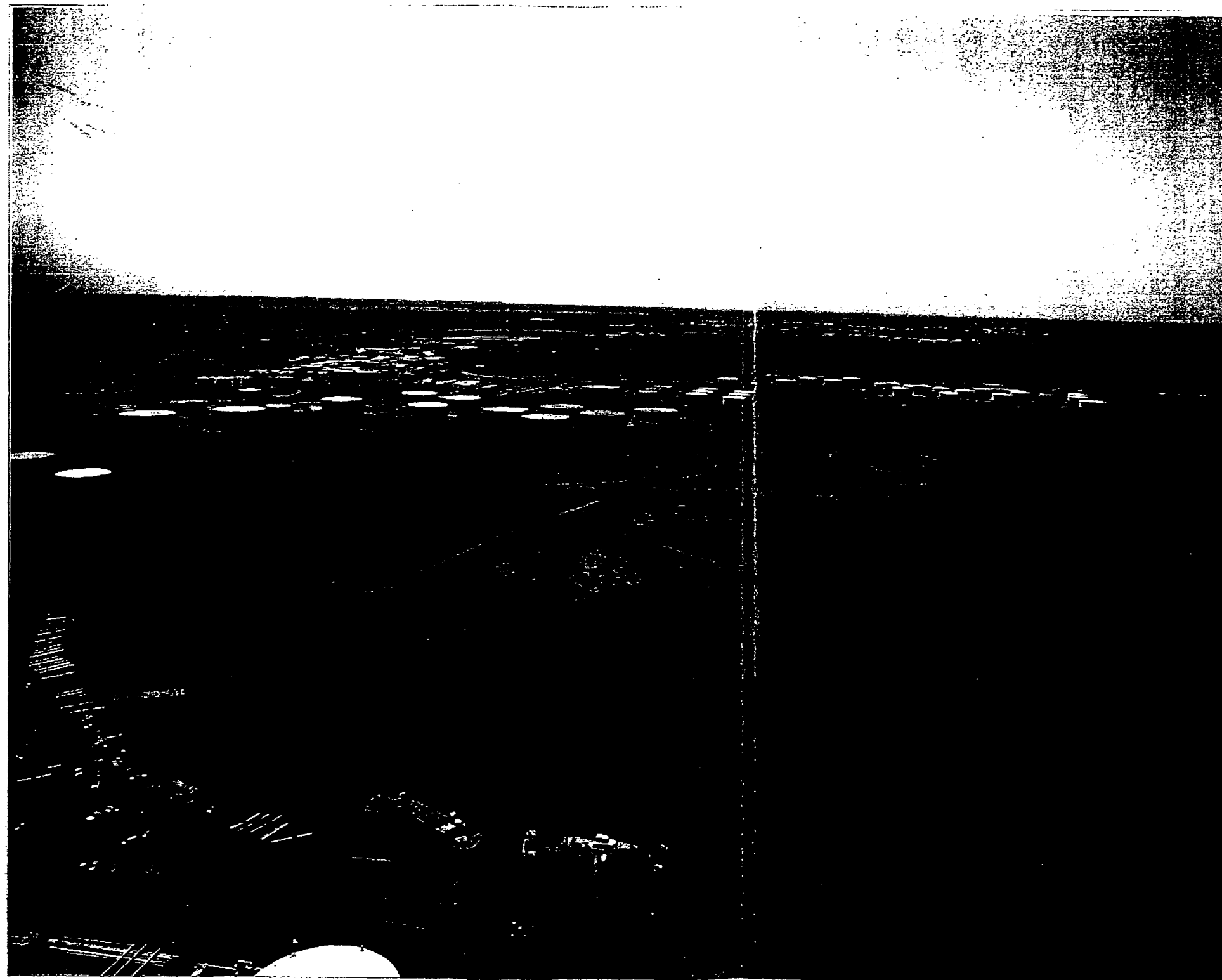


CYTEC INDUSTRIES INC.
CARTERET, NEW JERSEY

1980 AERIAL PHOTOGRAPH

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
3

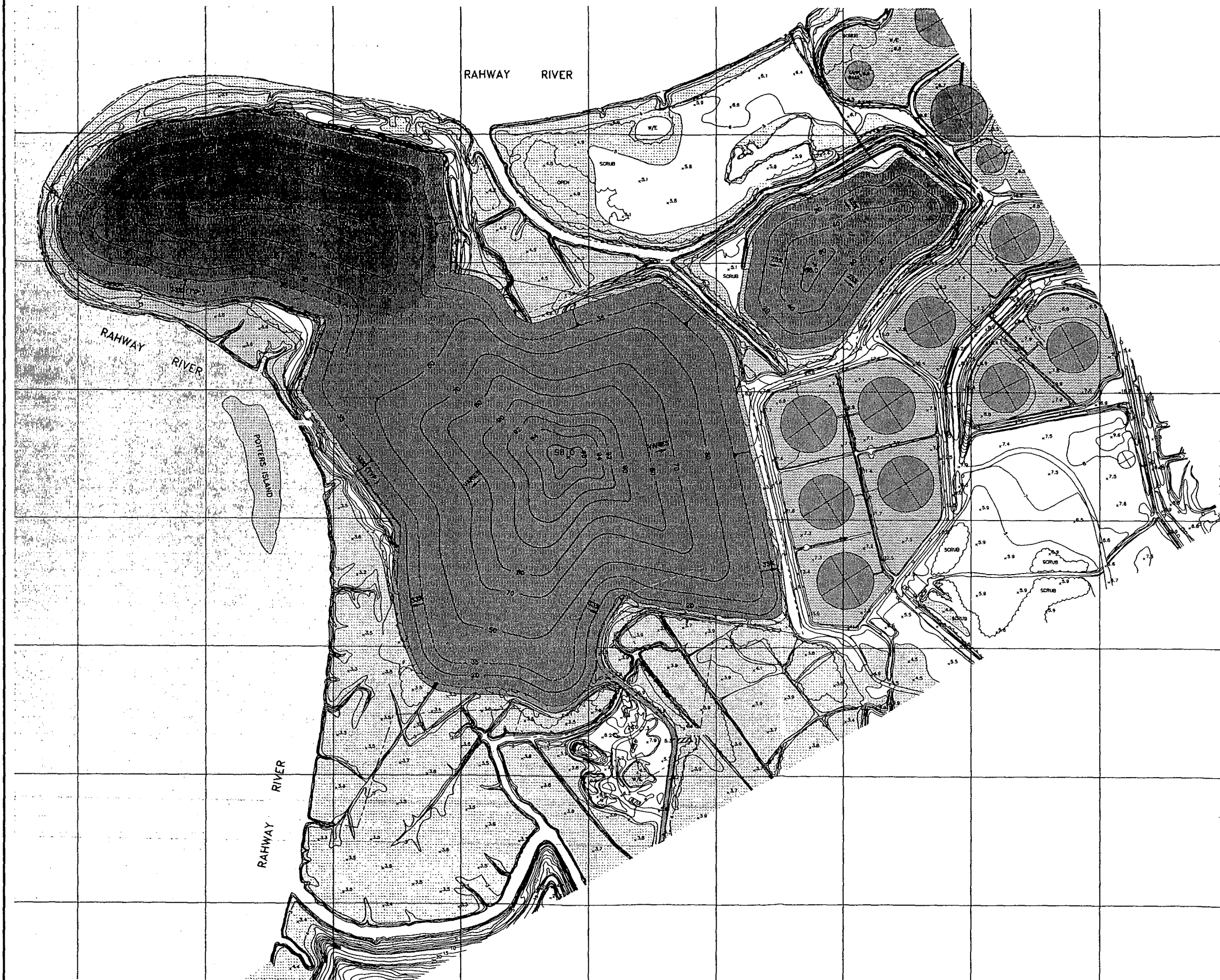


CYTEC INDUSTRIES INC.
CARTERET, NEW JERSEY

1990 AERIAL PHOTOGRAPH

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
4



LEGEND

EXISTING CONDITION:

— FENCE

— ROAD

— BERM

— PROPERTY LINE LOCATION (APPROXIMATE)

CONCEPTUAL:

— CHANGE-IN-GRADE

— 40 — CONTOUR ELEVATION LINE

36.0 x SPOT ELEVATION

— APPROXIMATE AREA OF FILL PLACEMENT (FOR FUTURE DEVELOPMENT)

— APPROXIMATE AREA OF FILL PLACEMENT (VEGETATED)

NOTES:

1. ALL INFORMATION SHOWN HEREON UNLESS OTHERWISE NOTED WAS TAKEN FROM A MAP ENTITLED "ORIGINAL MANUSCRIPT AERIAL TOPOGRAPHY, WARNER'S PLANT IMPOUNDS", PREPARED BY MICHAEL DISKO ASSOCIATES, CONSULTING ENGINEERS, 2005 U.S. HIGHWAY No. 22, UNION, N.J. 07083. PREPARED FOR AMERICAN CYANAMID COMPANY, WARNER'S PLANT, LINDEN N.J. DATED APRIL 1992.

2. ROAD AND BERM LOCATIONS WERE TAKEN FROM A MAP ENTITLED "VEGETATION AND RESTORATION OF CONTAINMENT DIKE AT CARTERET LANDFILL", DRAWING NO. SKW-157208, PREPARED BY AMERICAN CYANAMID COMPANY, DATED 5/3/88 AND REVISED 1/9/89.

3. IMPOUNDMENT 2 BERM ASSUMED TO BE ELEVATION 13 FOR FILL VOLUME CALCULATIONS.



CYTEC INDUSTRIES INC.
CARTERET, NEW JERSEY
PROPOSED DREDGED MATERIALS PROJECT

CONCEPTUAL GRADING
PHASE III

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
5

X: X-1-BASE, X-2-SHD
L: QN= * OFF=REF
P: STD-PCP/DLO2BL
7/29/97 CRAN-62-MON.SYR-54-NES
44055002\44055017.DWG